

### **REMARKS**

Claims 1-25 are pending in the application. The Examiner's reconsideration of the rejections in view of the amendments and remarks is respectfully requested.

Claims 21 and 25 have been withdrawn from consideration by the Examiner as being directed to a non-elected invention on the basis that the new language would require additional search and consideration beyond that given in the Office Action April 3, 2006.

Respectfully, the rationale of the restriction fails in view of the later issued Final Rejection of September 22, 2006, which presumably was issued based on such a search. That is, at least with respect to the present restriction, Claims 21 and 25 were previously claimed and acted on. Therefore, Claims 21 and 25 are not believed to be in the purview of MPEP 821.03.

Further, MPEP 821.03 is directed only to claims added by amendment that are distinct from and independent of the invention previously claimed. Clearly, Claim 21 was not added by amendment. Further, Claim 25 is not independent from the previously claimed invention, for example, Claim 25 depends from Claim 5.

Further still, the need for additional search alone is not believed to be a sufficient basis for restriction. The present Office Action fails to provide a rationale as to why Claims 21 and 25 would not be readable on the pending claims, e.g., citing different fields of search for the restricted claims.

Therefore, the Examiner is respectfully urged to maintain all claims in the present application.

The Examiner has objected to the use of "Fig." in the drawings, stating essentially that the drawings must be labeled as "FIG." Respectfully, there appears to be no requirement as to the capitalization of the abbreviation. For example, see MPEP 507(E), wherein the requirement is given as "Fig." Therefore, no such requirement for the capitalization of "Fig." is believed to exist. Reconsideration of the objection is respectfully requested.

The specification has been objected to as failing to provide proper antecedent basis for the claimed subject matter. The Examiner suggested that there is no antecedent basis given for the language "a coprocessor for storing data managed by the processor", which appears in each of the independent Claims 1, 5, 9 and 17.

Respectfully, the form and function of the objection operate as a rejection under 35 U.S.C. §112, first paragraph.

The present Office Action was made Final. Respectfully, Applicants believe that a Final Office Action is premature in that the present objection takes the form and function of a new rejection under 35 U.S.C. 112, first paragraph, wherein Claims 1, 5, 9 and 17 were not amended in the previous response. A second or any subsequent action on the merits shall be final, except where the examiner introduces a new ground of rejection that is not necessitated by applicant's amendment of the claims. Claims 1, 5, 9 and 17 were not amended in the previous response. Therefore, Applicants respectfully request the Examiner's withdrawal of the finality of the present Office Action.

Further, the limitation, "a coprocessor for storing data managed by the processor," is supported by, at least, page 2, line 25 to page 3, line 1, Figures 2 and 3, and page 6, line 17 to

page 7, line 4, wherein a correlation function among the DSP abilities includes X- and Y-vectors, e.g., the ability to store data managed by the processor to X- and Y-data caches.

Claims 1-20 and 22-24 have been objected to for an informality. The Examiner stated essentially that the language "a coprocessor for storing data managed by the processor" in each of independent Claims 1, 5, 9 and 17 is confusing because the claims also include at least one memory which serves this same function.

Claims 1, 5, 9 and 17 have been amended to clarify the coprocessor as being invoked by the microprocessor for processing data managed by the microprocessor.

Reconsideration of the objection is respectfully requested.

Claims 1-20 and 22-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Chauvel et al. (U.S. Patent No. 6,369,855) in view of Sussman et al. (U.S. Patent No. 5,686,960). The Examiner stated essentially that the combined teachings of Chauvel and Sussman teach or suggest all the limitations recited in Claims 1-24.

Claims 1, 5, 9, and 17 are the independent claims.

Claims 1, 5, 9, and 17 claim, *inter alia*, "an X-data cache for storing a first data group managed by the coprocessor of the data managed by the microprocessor; and a Y-data cache for storing a second data group managed by the coprocessor of the data managed by the microprocessor."

Chauvel teaches an audio-visual circuit (see Abstract). Chauvel fails to teach or suggest "an X-data cache for storing a first data group managed by the coprocessor of the data managed by the microprocessor; and a Y-data cache for storing a second data group managed by the

coprocessor of the data managed by the microprocessor” as claimed in Claims 1, 5, 9, and 17. Chauvel teaches that the Communications Co-Processor “module 280 contains a collection of buffers, control registers, and control logic for various interfaces, such as UARTs, IR/RF, I.sup.2 C, and JTAG. All the buffers and registers are memory mapped and individually managed by the ARM CPU 220” (see col. 56, lines 56-60). The Communications Co-Processor of Chauvel handles communication signals and operates communication interfaces, the Communications Co-Processor is not responsible for memory management - Chauvel’s system manages data using the ARM CPU. Therefore, Chauvel fails to teach or suggest cache managed by a co-processor, essentially as claimed in Claims 1, 5, 9, and 17.

Sussman teaches an image input device (see Abstract). Sussman fails to teach or suggest “an X-data cache for storing a first data group managed by the coprocessor of the data managed by the microprocessor; and a Y-data cache for storing a second data group managed by the coprocessor of the data managed by the microprocessor” as claimed in Claims 1, 5, 9, and 17. Sussman teaches a dedicated image processor (see col. 6, lines 36-38). The image processor of Sussman controls an X cache and a Y cache. Sussman does not teach or suggest a X-data cache not Y-data cache for storing data managed by a coprocessor. Further, nowhere does Sussman teach that the image processor manages data of another processor – the image processor is not analogous to a co-processor as claimed in Claims 1, 5, 9, and 17. Therefore, Sussman fails cure the deficiencies of Chauvel.

The combined teachings of Chauvel and Sussman teach memory managed by a CPU. The combined teachings of Chauvel and Sussman fail to teach or suggest memory managed by a coprocessor, much less “an X-data cache for storing a first data group managed by the coprocessor of the data managed by the microprocessor; and a Y-data cache for storing a second

data group managed by the coprocessor of the data managed by the microprocessor” as claimed in Claims 1, 5, 9, and 17.

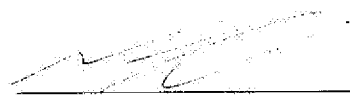
Claims 2-4 depend from Claim 1. Claims 6-8 depend from Claim 5. Claims 10-16 depend from Claim 9. Claims 18-20 and 22-24 depend from Claim 17. The dependent claims are believed to be allowable for at least the reasons given for the respective independent claims. The Examiner’s reconsideration of the rejection is respectfully requested.

For the forgoing reasons, the application, including Claims 1-25, is believed to be in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

Respectfully submitted,

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